2. (amended) The process of claim 1, wherein the second substrate is an annular frame, whereby the free standing filter spans an opening in the annular frame.

3. (amended) The process of claim 1, wherein the coefficient of thermal expansion of the second substrate is higher than that of the free standing filter, whereby the second substrate stretches the free standing filter at temperatures at a high end of the operating temperature range.

4. (amended) The process of claim 1, wherein a release means is provided before depositing said removable multi-layer interference filter.

5. (amended) The process of claim 4, wherein the release means is a release layer selected from the group consisting of: organic photoresist materials soluble in organic solvents water-soluble salts, water-soluble polymers, metals, and metal compounds.

7. (amended) The process of claim 4, wherein the release means is a release layer, said release layer being deposited over the first substrate in a discrete pattern whereby each free standing multilayer interference filter is released from the first substrate with lateral dimensions corresponding to the discrete pattern.

9. (amended) The process of claim 1, further comprising the step of attaching the free standing filter to a third substrate , wherein the third substrate has a coefficient of thermal expansion enabling the third substrate to apply a stress to the free standing filter for at least partially compensating for a shift in center wavelength over an operating temperature range.

10. (amended) The process of claim 9, wherein the second and third substrates are annular, whereby the free-standing filter spans openings in the second and third substrates.

[Cancel Claim 11]

12. (amended) The process of claim 1, wherein step b includes:

i) introducing the first substrate into a vacuum deposition chamber,

ii) reducing the pressure in said vacuum deposition chamber,

iii) providing a release treatment to said first substrate,

iv) depositing a protective layer onto said release treated substrate,

v) restoring the pressure in the vacuum deposition chamber,

vi) reintroducing the first substrate to the vacuum deposition chamber,

vii) depositing a multilayer interference filter having an initial net stress over the protective layer.

13. (amended) The process of claim 2, wherein the annular frame comprises a metal, and the coefficient of thermal expansion of the annular frame is greater than that of the free standing filter.

14. (amended) The process of claim 13, wherein the annular frame comprises stainless steel having a coefficient of thermal expansion of between 103 x 10^{-7}/°K and 179 x 10^{-7}/°K.

15. (amended) The process of claim 10, wherein the second and third substrates comprise metal, each having coefficients of thermal expansion greater than that of the free standing filter

Cancel Claims 16 to 21

22. (amended) An optical filter assembly comprising:

a first frame member having a first planar surface that substantially surrounds a central opening therein, the first frame member having a first coefficient of thermal expansion, and

a multilayer interference filter free of any substrate having a first surface attached to the planar surface of said first frame member to define an unobstructed optical aperture through said multilayer interference filter, the multi-layer interference filter having a second coefficient of thermal expansion larger than the first coefficient of thermal expansion,

whereby the frame member applies a stress to the multiplayer interference filter during changes in temperature, thereby reducing a shift in the center wavelength transmitted by the multi-layer interference filter.

23. (amended) An optical filter assembly according to claim 22, further comprising a second frame member with a central opening therethrough attached to a second surface of said multilayer

interference filter, wherein the optical aperture through said multilayer interference filter is substantially unobstructed.

24. (amended) An optical filter assembly according to claim 23, wherein the second frame member and the first frame member are annular.

25. (amended) An optical filter assembly according to claim 23, wherein the first and second frame members are comprised of stainless steel material.

26. (amended) An optical filter assembly according to claim 23, wherein the first and second frame members are formed from a material having a coefficient of thermal expansion of between 103 x 10^{-7}/°K and 179 x 10^{-7}/°K.

Cancel Claims 27 and 28

Please add new claims 29 to 32

29. An optical filter assembly according to claim 22, wherein the first frame member is annular.

30. An optical filter assembly according to claim 22, wherein the first frame member is comprised of metal.

31. An optical filter assembly according to claim 22, wherein the first frame member is comprised of stainless steel.

32. An optical filter assembly according to claim 22, wherein the first frame member is formed from a material having a coefficient of thermal expansion of between 103 x 10^{-7}/°K and 179 x 10^{-7}/°K.

REMARKS

The Applicant hereby elects the claims from Group II. However, to ensure all aspects of the invention are protected, Claim 1 has been amended to define to a process for making an optical filter assembly, as per Claim 16. Accordingly, Claims 11, 16 to 21, 27 and 28